Communicable Disease Report

Hawai'i Department of Health
Communicable Disease Division

http://www.state.hi.us/doh/resource/comm_dis/cdr.html **January/February 2004**

Avian Influenza

Editor's Note: As of February 27, 2004, Thailand and Vietnam have 33 confirmed human cases of avian influenza A (H5N1) with 22 deaths.

Information regarding Avian Influenza was posted on the Centers for Disease Control and Prevention's website on January 15, 2004. The following is a synopsis of the Fact Sheets.

Introduction

Type A influenza viruses can infect several animal species, including birds, pigs, horses, seals, and whales. Birds are an especially important species because all known subtypes of influenza A viruses circulate among wild birds, which are considered the natural hosts for influenza A viruses. Most influenza viruses cause no symptoms, or only mild ones in wild birds. However, certain avian influenza A viruses (i.e. some H5 and H7 strains) can cause widespread disease and death among domesticated birds such as chickens and turkeys. Although avian influenza viruses do not usually directly infect or circulate among humans, several instances of human infections and outbreaks have been reported since 1997. Confirmed instances of avian influenza viruses infecting humans follow:

1997

In Hong Kong, avian influenza A (H5N1) infected both chickens and humans. This was the first time an avian influenza virus had been found to transmit directly from birds to humans. During this outbreak, 18 people were hospitalized and six died. Authorities killed approximately 1.5 million chickens to decrease the opportunity for further direct transmission to humans and may have averted a pandemic. Scientists determined that the virus spread primarily from birds to humans, although rare person-to-person infection was noted.

1999

In Hong Kong, cases of avian influenza A (H9N2) were confirmed in two children. Both patients recovered, and no additional cases were confirmed. Several additional human H9N2 infections were reported from mainland China in 1998-99.

2003

Two cases of avian influenza A (H5N1) infection occurred among members of a Hong Kong family that had traveled to China. One person recovered, and the other died. The source of infection was not determined. Avian influenza A (H7N7) infections among poultry workers and their families were confirmed in the Netherlands during an outbreak of avian flu among poultry. More than 80 cases of H7N7 illness were reported (mostly confined to eye infections, with some respiratory symptoms); one patient died. An H9N2 infection was confirmed in a child in Hong Kong, who was hospitalized but recovered.

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Symptoms of Avian Influenza in Humans

The reported symptoms of avian influenza in humans have ranged from typical influenza-like symptoms (e.g. fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, acute respiratory distress, viral pneumonia, and other severe and life-threatening complications.

Current Influenza A (H5N1) Outbreak

In Vietnam, large outbreaks of influenza A (H5N1) have been reported among poultry in the southern and northern regions of the country. Since the end of October 2003, Vietnam has reported 14 cases of severe respiratory illness that resulted in 12 deaths, 11 of which were among children. Among these 14 cases, five have been confirmed as avian influenza A (H5N1) by testing conducted at the National Institute of Hygiene and Epidemiology in Hanoi and Hong Kong. All five confirmed cases have been fatal. It is not known whether the remaining deaths were caused by the influenza A (H5N1). Whether any relationship exists between the poultry outbreak and the human cases of avian influenza in Vietnam is still under investigation. Severe acute respiratory syndrome (SARS) has been ruled out as a cause of the illness. No definitive evidence has been found thus far of human-to-human transmission; no H5N1 infections have been documented among health-care workers.

During December 2003, an outbreak of avian influenza A (H5N1) was reported among poultry in South Korea. In January 2004, Japan reported the deaths of 6,000 chickens on a single farm in the western part of Honshu due to influenza A (H5N1) virus infection. No human cases of infection with the avian influenza virus have been reported in either of these outbreaks.

Two cases of H5N1 avian influenza in humans were reported on January 23, 2004 from Thailand. Both cases are in children and are laboratory confirmed.

The co-circulation of human and highly pathogenic animal influenza viruses is of serious concern to WHO, the Centers for Disease Control and Prevention (CDC), and other health authorities worldwide because if individuals are co-infected with both human and avian influenza viruses, an exchange of genes between the two viruses might occur. This gene exchange could give rise to a new, virulent influenza virus subtype to which humans would have little or no immunity. In addition, the acquisition of human influenza genes increases the likelihood that a virus of avian origin can be readily transmitted from one human to another. If an avian virus were able to infect people and gain the ability to spread easily from person to person, an influenza pandemic could begin.

Past influenza pandemics have led to high levels of illness, death, social disruptions and economic loss. There have been three pandemics in the 20th century. All of them spread worldwide within one year of being detected. They are:

1918-19 "Spanish flu," [A (H1N1)]
More than 500,000 people died in the United States, and 20-50 million people may have died worldwide.

1957-58 "Asian flu," [A (H2N2)] caused about 70,000 deaths in the United States.

1968-69 "Hong Kong flu," [A (H3N2)]caused approximately 34,000 deaths in the United States.

According to WHO, the H5N1 strain implicated in the outbreak in Vietnam has now been partially sequenced. All genes are of avian origin, indicating that the virus had not yet acquired human influenza genes.

CDC has recommended enhanced influenza surveillance to identify patients who have been hospitalized with unexplained pneumonia, ARDS, or severe respiratory illness AND who have traveled to Vietnam, South Korea, and Japan within 10 days from onset of symptoms. CDC, along with WHO and other partners are exploring other measures to prevent further human avian influenza cases.

For more information, visit the CDC web site at www.cdc.gov or the World Health Organization web site at www.who.int/en/

Preventive Medicine for the Marines during Operation Iraqi Freedom

"The more you sweat during peace, the less you'll bleed during war."

The most recent combat deployment to Iraq drew on many lessons and experience gained during the first Gulf War (Operation Desert Shield/Storm) in 1991. The role of preventive medicine was critical in keeping troops healthy in the desert environment where temperatures exceeded 125° F. and dust storms raged. Ongoing attention was required to deal with routine field sanitation, food and water safety, hygiene, and infectious diseases (including malaria, leishmaniasis and enteric illnesses), not to mention an armed enemy.

Preparations and Challenges

During Operation Iraqi Freedom in 2003 the threat of chemical and biological war agents to the more than 60,000 I Marine Expeditionary Force (IMEF) Marines was of added concern to care providers. Iraq's use of the weapons was anticipated, perhaps in the regime's desperation to prevent Baghdad's fall. Preparing against smallpox and anthrax included vigorous educational efforts and vaccination, with documentation and follow-up. The requirement for smallpox vaccination came as personnel were preparing to deploy aboard ships and ashore in Kuwait, Bahrain, and continued operations in Afghanistan. As with TB skin testing, each smallpox vaccinee required follow-up for vaccine "take." Rates for serious side effects after smallpox vaccination have remained low, far lower than anticipated based on public vaccination programs of a generation ago. The safety of the anthrax program was borne out after administration of hundreds of thousands of doses of the FDA-approved vaccine. Along with high environmental temperatures, many personnel wore bulky, chemical protective overgarments, boots and hoods during early combat operations, increasing thermal stress. Challenges to executing public health programs included limited communications, and transportation as well as newly imposed reporting requirements that taxed the time of medical providers and staff. This diverted some efforts from proven programs. Those departing to the desert completed Pre-Deployment Health Assessment forms (PDHAs) to document health status. These, along with health record reviews, helped prevent the deployment of those not fully fit.

Preventive Medicine Teams

Three robust 12-person Navy Preventive Medicine teams and an Army unit supplemented Navy preventive medicine personnel assigned to the Marines. All were designed to provide initial testing for biological and chemical warfare agents, food and water sanitation testing, entomological consultation, vector control assistance and baseline environmental sampling. Marine units provided updated training on malaria prevention, surveillance for diseases and injuries, vector control, and provided personal protective material (DEET skin repellent, permethrin spraying of uniforms and malaria chemoprophylaxis).

Surveillance

Disease surveillance, included weekly tracking of enteric, respiratory, psychiatric, orthopedic, dermatological and other conditions. Commands had used the program at their home bases in the US since after the first Gulf War. Medical clinics submitted data on diagnosis via computer to the base headquarters weekly for analysis. The ongoing process simplified implementation as they moved into the combat zone. A daily message reporting requirement was also implemented to track rates of signs and symptoms to more rapidly detect attack with biological agents.

Vector-borne Illness

Chemoprophylaxis for malaria in Iraq was primarily based on daily doxycycline. There were just two low-parasitemia malaria cases in Marines. A handful of cutaneous leishmaniasis infected personnel have been identified and treated to date, and cases from all service branches are referred to Walter Reed Army Medical Center, Washington, D.C. for standardized treatment.

Gastroenteritis

It is unusual for military bases to have any significant enteric disease outbreaks. However, field sanitation was problematic at many camps, particularly in Iraq, with gastroenteritis being fairly common. Some units reported 75% or more of personnel affected. Lack of properly

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constructed and maintained hand washing facilities, limited experience with constructing fly-proof and sanitary latrines and documented Norovirus infections acted together to complicate the problem. Use of waterless hand cleansers is being increasingly adopted to provide improved hygiene options.

Post-Deployment

For those returning from deployment a newly required Post-Deployment Health form was developed and completion required, along with submission to a Washington, DC-area command for analysis. Personnel are encouraged to seek medical care if they develop any signs and symptoms they consider deployment-related. The Department of Defense medical departments send out frequent updates to medical commands to assure monitoring the health of our veterans, advise about any illnesses among service personnel, and the Department of Veterans Affairs (www.va.gov) has increased veteran support programs throughout the nation.

Summary

The overall success of preventive medicine operations led to improved disease rates; reportedly 20% lower than during the first Gulf War. However, since the surveillance was particularly challenging for units constantly on the move, actual illness and injury rates may be higher than reports indicated. The trend toward increasing administrative reporting imposed "mid-stream", while well meaning, can detract from providing optimal public health for our forces.

OIF service members have some similarities to travel medicine patients returning from extended periods in undeveloped countries. When medical providers evaluate veterans it is important that medical providers consider the possibility of conditions that may have been acquired as a result of their service overseas, including leishmaniasis (http://chppm-www.apgea.army.mil/news/leishmaniasis.asp). Despite vector control and personal protective efforts it is likely that deployed forces will acquire some additional diseases.

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Increased Mad Cow Safeguards

In a January 26, 2004 press release issued by the Federal Drug Administration (FDA), the U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Agriculture (USDA) announced new public health measures to significantly strengthen the multiple existing firewalls that protect Americans from exposure to the agent thought to cause bovine spongiform encephalopathy (BSE).

Existing Precautions

Existing firewalls, developed by the USDA and HHS, have been effective in protecting the American consumer from exposure to BSE.

1. Import controls were started in 1989,
2. Surveillance of the U.S. cattle population for the presence of BSE, that led to the detection of the BSE cow in December,
3. The FDA's 1997 animal feed ban by prohibiting the feeding of most mammalian protein to ruminant animals, including cattle;
4. Insuring that no bovine tissues known to be at high risk for carrying the agent of BSE enter the human food supply regulated by the USDA.
5. Effective response planning to contain the potential for any damage from a BSE positive animal, if one is discovered. This contingency response plan, developed over several years,

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Increased Safeguards

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was initiated immediately upon the discovery of a BSE positive cow in Washington state on December 23, 2003.

The new safeguards are science-based and further bolster these already effective safeguards.

1. The HHS will ban from human food (including dietary supplements and cosmetics) a wide range of bovine-derived material so that the same safeguards that protect Americans from exposure to BSE through meat products regulated by the USDA will also apply to food products regulated by the FDA.
2. The FDA will also prohibit certain currently allowed feeding and manufacturing practices involving feed for cattle and other ruminant animals. These additional measures will further strengthen FDA's 1997 "animal feed" rule.

HHS Secretary Tommy G. Thompson said these actions will make strong public health protection against BSE even stronger. The FDA will step up its inspections of feed mills and renderers and firms that handle animal feed and feed ingredients to ensure companies are in compliance with these new rules.

The first new rule will ban the following materials from FDA-regulated human food and cosmetics.

- Any materials from cattle that cannot walk.
- Any material from dead cattle
- Specified risk tissues known to harbor the highest concentrations of the infectious agent for BSE.
- Mechanically separated beef.

The second rule is designed to lower the risk that cattle will be purposefully or inadvertently fed prohibited protein.

- Blood and blood products collected at slaughter will no longer be fed to other ruminants as a protein source;
- Ban the use of "poultry litter" as a feed ingredient for ruminant animals.
- Ban the use of "plate waste" (uneaten meat and other meat scraps currently collected from some large restaurant operations and rendered into meat and bone meal for animal feed).
- Minimize the possibility of cross-contamination of ruminant and non-ruminant animal feed by requiring equipment, facilities or production lines to be dedicated to non-ruminant animal feeds if they use protein that is prohibited in ruminant feed.

For further information, please see the FDA's Advance Notice of Proposed Rulemaking , available online at http://www.fda.gov/OHRMS/DOCKETS/98fr/110602c.htm.

Submitted by David M. Sasaki, D.V.M., M.P.H., Veterinary Medical Officer, Disease Outbreak and Control Division.

Drug Resistant Tuberculosis in Hawai`i, 2002

There was a significant increase in drug resistant (DR) tuberculosis (TB) from 12 cases reported in 2001 to 22 cases in 2002. Twenty of the 22 resistant cases were foreign-born. Thirty percent of the DR cases were in the United States less than one year before diagnosis. The countries of birth were Philippines (15), Vietnam (3), American Samoa (1) and Canada (1). All counties in Hawai`i reported DR cases.

Fourteen cases were resistant to only one drug. The drugs were isoniazid (INH) (9), streptomycin (SM) (1), and pyrazinamide (PZA) (2). There was one multi-drug resistant case as defined by the Centers for Disease Control to be resistant to INH and rifampin (RIF). These cases are challenging to treat and require a prolonged course with second line antibiotics and long-term follow-up. There were seven other multiple drug resistant cases, resistant to the following drugs: INH/SM (5), INH/ethambutal (EMB) (1), and INH/EMB/SM (1). (See Figure 1).

Actions requested of Clinicians who Diagnose and Treat TB Patients

For any patient suspected of having active pulmonary TB, clinicians are requested to obtain three sputum specimens taken at least eight hours apart, examined for acid fast bacilli and cultured. At least one sputum sample should be collected in the morning. Drug susceptibility of the specimens should also be ordered.

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Drug Resistant TB

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A chest X-ray is basic to the examination. Therapy should then be initiated with four drugs including INH, RIF, EMB, and PZA.

The Hawai`i Tuberculosis Control Branch should be notified for any suspected TB case. Directly observed therapy (DOT) by an outreach worker can be requested. The program staff will also conduct contact investigations, screen close contacts and offer treatment to infected contacts, if needed.

After two months of initial therapy, the sputum smear, culture and any cavitary lesion on the chest X-ray needs to be reviewed for patient response and risk of relapse.

At any time, the patient may be referred or the situation discussed with the TB branch.

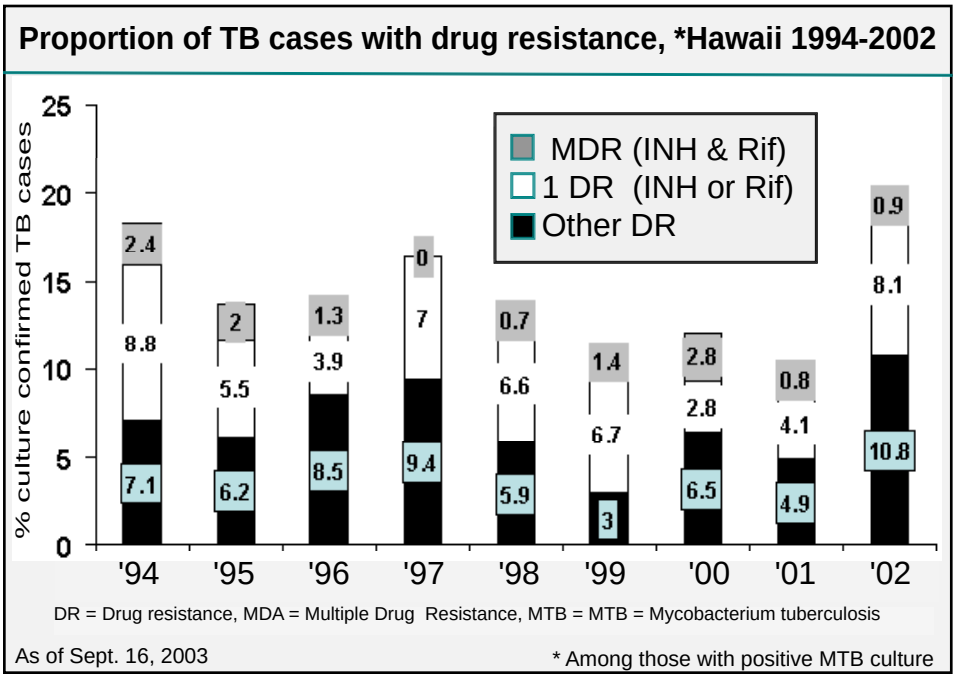
The February 15, 2003 issue of the *American Journal of Respiratory and Critical Care Medicine* presented revised guidelines for the treatment of TB (http://www.thoracic.org/adobe/statements/treattb.pdf). This is also reprinted in the MMWR on June 20, 2003 and can be found at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5211a1.htm

The last treatment statement was published in 1994. Recommended changes made in 2003 include reviewing the patient after the initial two month phase to check on sputum cultures and cavitary lesions on the chest X-ray to identify patients at risk of relapse. In addition, a new once weekly rifapentine-containing regimen is presented as an option for selected, HIV-negative patients during the continuation phase of therapy. A discussion of updated recommendations for the management of drug-resistant TB is also included.

The TB Control Branch research team from the 'Improving Contact Investigations in Foreign-born Populations' grant will be offering free HIV testing to 2003 TB cases *and contacts* as part of the CDC research protocol.

For more information, please contact: The Hawai`i TB Control branch at 832-5731 in Honolulu: or the Hawai`i TB Website at www.hawaii.gov/doh/resource/comm_dis/tb: or the CDC/TB Website at http://www.cdc.gov/nchstp/tb/default.htm.

Figure 1: Key Changes to Standard Treatment Guidelines



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Submitted by: R. Silva, D.Thai, J.S. Wing, Hawai`i State TB Control Branch.

Fraud and Abuse in the Vaccines For Children Program: The Importance of Vaccine Accountability

The Omnibus Budget Reconciliation Act created the Vaccines for Children (VFC) program as Section 1928 of the Social Security Act on August 10, 1993. Funding is through the Centers for Medicare and Medicaid Services to the Centers for Disease Control and Prevention, National Immunization Program (NIP). Approximately one billion dollars is awarded to 64 eligible grantees including all states, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Commonwealth of the Northern Marianas. Ninety percent of these funds are used to purchase and provide vaccine at no cost to VFC-eligible children through enrolled public and private providers.

Vaccine Accountability

Vaccine accountability is one of the NIP's highest priorities and an essential component of the VFC program. Immunization projects have the primary responsibility for developing and maintaining vaccine accountability systems which:

1. Ensure that vaccine loss and wastage is minimized and measured;
2. Ensure that vaccines purchased with VFC funds are administered only to VFC-eligible children;
3. Protect against fraud and abuse;
4. Ensure the proper apportionment of VFC vaccine purchases based on the VFC-eligible data for the population it serves.

In an effort to assist projects, NIP outlines methods that have been proven to strengthen vaccine accountability systems. Projects like Hawai`i's VFC program are encouraged to incorporate one or more of the accountability activities into their State plans. Hawai`i's VFC program incorporates two methods; doses administered reporting and benchmarking to assist providers in their accountability for VFC vaccine.

1. Doses administered reporting requires vaccine usage, wastage and inventory reporting including vaccine expiration dates. When compared to vaccine received it enables projects to analyze vaccines administered, and the inventory at the provider level. In Hawaii, doses administered reporting is performed with the use of the Vaccine Administration Visit Record form and the VFC vaccine order form.
2. Benchmarking assists providers in determining their provider profile by providing tangible data on the number of VFC eligible children served by the provider. With the benchmarking approach, the provider maintains a log in which all doses of vaccine administered for a predetermined period of time are recorded. The benchmarking log includes a child's VFC eligibility status by specific category and type of vaccine administered. This data is then utilized by the provider to prorate vaccine needs for the year. Every order submitted by a provider is compared to the profile submitted. Orders exceeding the expected usage may be identified by the project, which would then prompt Immunization Branch staff to contact the provider.

Fraud and Abuse

So, what is fraud and abuse? Fraud, as it is defined in 42 CFR 455.2, is *"an intentional deception or misrepresentation made by a person with the knowledge that the deception could result in some unauthorized benefit to himself or some other person."*

Abuse is defined as *"provider practices that are inconsistent with sound fiscal, business, or medical practices, and result in an unnecessary cost to the Medicaid program, or in reimbursement for services that are not medically necessary or that fail to meet professionally recognized standards for health care . . ."*

A summary report of all investigations of allegations of vaccine fraud and abuse nationally was recently distributed to the VFC programs. Thirty-one cases were listed. Many involved the administration of VFC vaccine to non-eligible children. Other cases investigated or under investigation allege significant discrepancies in the number of VFC doses supplied to a provider as compared to the number of documented doses administered. The billing of Medicaid and/or third party insurance when VFC vaccine was administered, and significant unaccounted doses of VFC vaccine were other cases of fraud and abuse. One provider who repeatedly avoided VFC site visits and was later found

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VFC Fraud

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to be out of compliance with nearly all standards was terminated from the VFC program. Other penalties included repayment for unaccounted vaccine with removal from the VFC program and prosecution with incarceration.

Hawai`i's VFC program has developed forms and procedures to assist its providers in complying with the VFC screening and accounting requirements. The forms include order forms with inventory and usage requirements, a benchmarking form to assist with provider profile determination, and a vaccine administration visit record. Procedures include return of all wasted or expired vaccine to the program, vaccine overstock precautions, vaccine order processing procedures, vaccine administration documentation procedures. Efforts to address vaccine accountability and fraud and abuse prevention are ongoing. Partnering with Medicaid to develop a statewide VFC vaccine fraud and abuse plan and increasing provider awareness through mailouts and conferences are new approaches currently being discussed.

For more information please call the Immunization Branch, Vaccine Supply and Distribution Section at 586-8300 in Honolulu, and 1-800-933-4832 on the neighbor islands.

REFERENCE:
Centers for Disease Control and Prevention, National Immunization Program. 2002 Vaccines for Children Program Operations Guide. Atlanta, GA.

Submitted by Loriann M. Kanno, Pharm D., Pharmacist, Immunization Branch, Disease Outbreak and Control Division.

Resurgence of Syphilis In Hawai`i

The incidence of syphilis has increased substantially in Hawai`i over the last few months with twelve infections reported during November-December 2003. The majority of these infections have been identified among men who have sex with men (MSM). Seventy- three percent of persons recently diagnosed with early syphilis are co-infected with HIV. Private health care providers have diagnosed almost all of the recent syphilis infections.

Syphilis Trends in Hawai`i

Hawai`i has seen a steady increase in infectious syphilis cases in recent years; the number of syphilis infections reported per 100,000 population was 0.6, 1.5, and 2.6 for 2000, 2001, and 2002 respectively. Data for 2003 are not finalized but so far 21 cases have been reported. Although this figure is less than that reported in 2002, the Hawai`I Department of Health (DOH) is concerned because a majority of the infections in 2003 occurred in just two months, potentially signaling an outbreak. Increases in syphilis have also been seen nationally and outbreaks of syphilis among MSM have been reported from California, Washington State, Chicago, New York, and other locations. Reasons for the resurgence of syphilis include unprotected sex and a large number of sex partners, many of whom are not locatable.

Epidemiology of the Current Cases

Of the 21 early syphilis cases reported in 2003 to date, 12 (57%) early syphilis infections were diagnosed between November 14 and December 20, 2003. This compares with four (13%) of 32 infections reported during the same time period in 2002. These 12 early syphilis cases reported are among men who have sex with men (MSM) or bisexual men. Eight of 11 (73%) of these cases are co-infected with HIV. Three of the eight (38%) were diagnosed with HIV in 2003 and the other five cases (63%) were previously diagnosed between 2-17 years ago. Co-infection of HIV and syphilis presents a major concern for prevention and control activities of HIV and syphilis infection in Hawai`i.

Medical Management of Patients with Syphilis

The medical management of patients with syphilis is determined by the clinical stage of infection. Because appropriate staging is critical for determining the optimal course of therapy, clinicians may wish to consult an infectious disease physician or DOH for assistance.

Treatment of Syphilis

Long-acting benzathine penicillin is the drug of choice for treating most stages of syphilis. The alternative regimens listed in Table 1 may be used; however, close follow-up is essential because data on non-penicillin regimens for the treatment of syphilis are limited – particularly for treating patients co-infected with HIV. There may be a higher risk of treatment failure when using alternative regimens.

The DOH can arrange delivery of benzathine penicillin, at no cost

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Syphilis

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to providers, for patients infected with syphilis and for their partners by calling a Disease Intervention Specialist (DIS) at 808-733-9281.

For all cases of syphilis, a follow-up serologic test for syphilis is essential to ensure adequate response to treatment. Follow-up RPR or VDRL tests should be done at 1, 3, 6, 9,12 and 24 months after treatment. Clinical re-evaluation to ensure rapid resolution of signs and symptoms should be done at one week, and at two to four weeks after treatment. It is important to emphasize to the patient that resolution of signs and symptoms does not imply successful treatment, hence follow-up serologic tests are necessary.

Screening Patients for Syphilis

Clinicians should routinely inquire about the following behaviors to better assess their patient's risk of syphilis:

- the gender of their patient's sexual partners
- whether their patient is in a sexually monogamous relationship, if not the number of different sexual partners in the last six months.
- whether their patient is having sex with a partner who is either HIV infected or of unknown HIV status.

Gay or bi-sexual men who are not in a mutually monogamous relationship should be screened for syphilis and other sexually transmitted diseases (STDs) and HIV every six months. Screening may be more frequent for those who use illicit drugs, engage in commercial sex, or have high rates of sexual partner exchange.

Diagnostic Testing

Types Of Tests: The direct examination of mucocutaneous lesions for spirochetes by darkfield analysis (DFA) is the definitive method for diagnosing primary and secondary syphilis.

If DFA is not available, the presumptive diagnosis of syphilis can be established by the tandem use of two types of serologic tests for syphilis (STS).

Interpretation of Serologic tests: An RPR or VDRL and an FTA-ABS or MHA-TP serology tests should be obtained for patients with clinical symptoms of syphilis. The Venereal Disease Research Laboratory Test (VDRL) or the rapid plasma reagin (RPR) tests are the two commonly used non-specific screening tests. The two commonly used confirmatory treponemal tests are the fluorescent treponemal antibody absorbed (FTA-ABS) or the microhemagglutination assay for antibody to T. pallidum (MHA-TP).

- RPR or VDRL may not be positive in a small percentage of patients with primary syphilis, but the FTA-ABS or MHA-TP will often be reactive prior to a positive RPR or VDRL test.
- A non-reactive RPR/VDRL does not imply that patient is not infected or infectious.
- Signs and symptoms of syphilis coupled with the results of serology tests for syphilis will determine the diagnosis of the patient.

All patients diagnosed with syphilis should have an HIV test. If a patient is co-infected with syphilis and HIV, then an evaluation for possible neurosyphilis or syphilitic eye disease is recommended.

Partner Management

Referral of partners of syphilis patients for medical management and treatment are key components in syphilis prevention and control. Partner referral provides an opportunity to break the chain of

Table 1

Clinical Stage	Treatment of Choice[a]	Patients Allergic to Penicillin[b]
Primary, Secondary, Early Latent [c]	Benzathine penicillin G 2.4 million units IM in a single dose	Doxycycline 100mg orally twice daily for 14 days Tetracycline 500 mg four times daily for 14 days Ceftriaxone 1 gm daily IM or IV for 8-10 days. Azithromycin 2 gm orally
Late Latent, Syphilis of unknown duration, Gummatous and Cardiovascular Syphilis	Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM at 1-week intervals	
Neurosyphilis	Aqueous crystalline penicillin G 18-24 million units per day, administered as 3-4 million units IV every 4 hours for 10-14 days	Procaine penicillin 2.4 million units IM once daily PLUS Probenecid 500 mg orally four times a day, both for 10-14 days

a. IM= intramuscular, IV= intravenous; mg= milligrams; gm= gram
b. Penicillin desensitization is recommended for patients having true penicillin allergy and neurosyphilis along with consultation with an infectious diseases expert. Penicillin skin testing may be helpful.
c. Primary, secondary and early latent syphilis are very infectious stages of the disease. Transmission of syphilis is most likely to occur during these early stages.

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infection by preventing re-infection of the patient and by preventing the spread of infection to other individuals, which ultimately will decrease the disease incidence in the community.

All patients with a known exposure to primary, secondary or early latent syphilis within 90 days should be prophylactically treated regardless of the serologic result because the RPR or VDRL may be falsely negative. In addition to ordering RPR or VDRL tests, FTA-ABS or MHA-TP test must be ordered. Persons who are exposed greater than 90 days before the diagnosis of primary, secondary, or early latent syphilis in a sexual partner should be treated presumptively if serologic test results are not available immediately and the opportunity for follow-up is uncertain.

All sex or needle-sharing partners within the preceding three months for a primary syphilis, six months for secondary syphilis, and one year for early latent syphilis should be clinically and serologically evaluated for early syphilis. Long-term sex partners of patients with late syphilis should be evaluated clinically and serologically for syphilis and treated based upon the examination results.

Providers should inform their patients infected with syphilis that the Hawaii DOH will contact them to ensure adequate follow-up and partner management. Disease intervention specialists (DIS) have been trained to respect the patient's and their partners' confidentiality. They are also available to assist in patient education and partner counseling and referral.

It is recommended that patients should be asked to provide the following:

1. Name and locating information of the patient's sex partner(s) for referral and medical management.
2. Where they or their sex partners have traveled.

For assistance, contact the DIS supervisor at (808) 733-9281. For all cases of syphilis, a DIS will contact your patient to obtain additional information necessary for public health investigation.

Reporting

Syphilis, gonorrhea and chlamydia are notifiable sexually transmitted diseases. Immediately notify the STD Prevention Program office of any case of syphilis pending laboratory confirmation. All cases of suspected or confirmed syphilis should be reported within three working days.

Please call (808) 733-9281 in Honolulu to report any notifiable STD.

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Communicable Disease Report

Communicable Disease Division 586-4580
Tuberculosis Disease Control Branch 832-5731
Hansen's Disease Control Branch 733-9831
STD/AIDS Prevention Branch 733-9010
STD Reporting 733-9289
AIDS Reporting 733-9010
Disease Outbreak Control Division 586-4586
Disease Investigation Branch 586-4586
Immunization Branch 586-8300
Bioterrorism Preparedness and Response Branch 587-6845
Information & Disease Reporting 586-4586
After-hours Emergency Reporting 247-2191
After-hours Neighbor Island Emergency Reporting 800-479-8092

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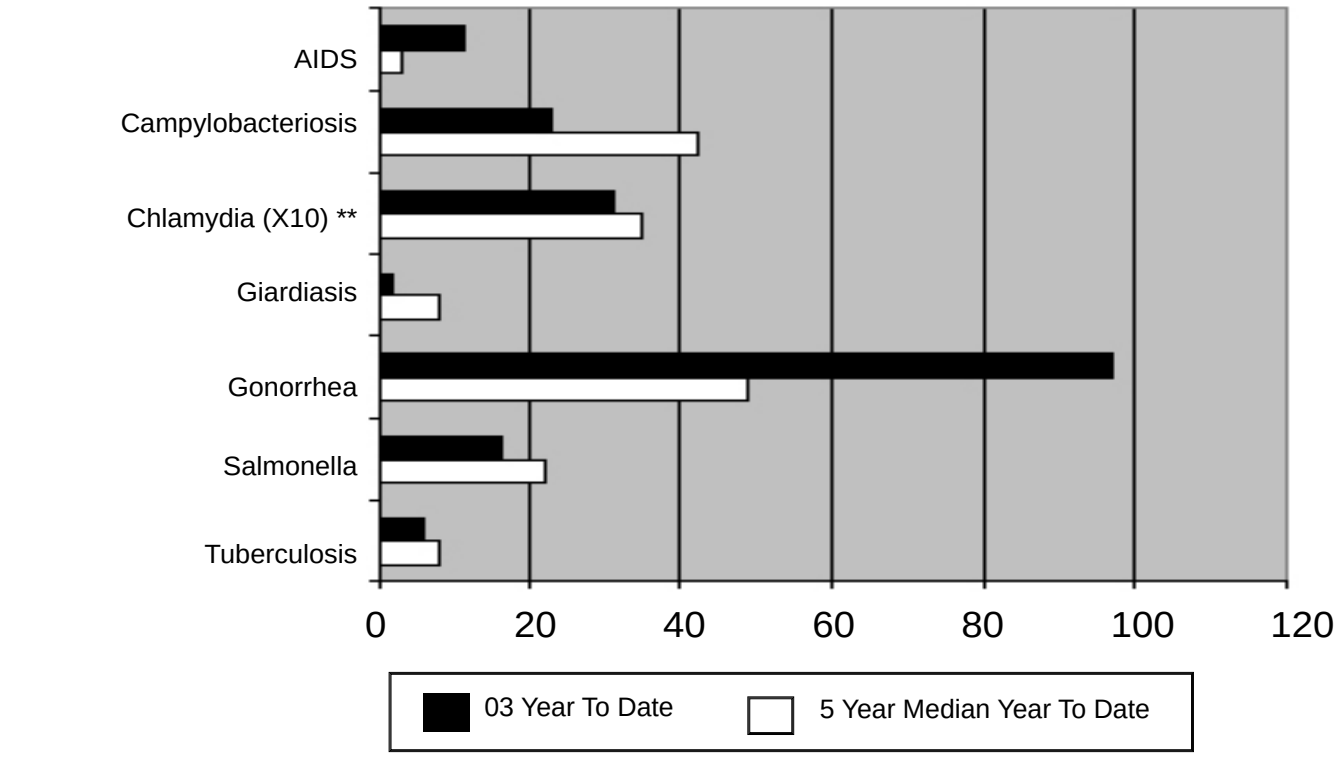
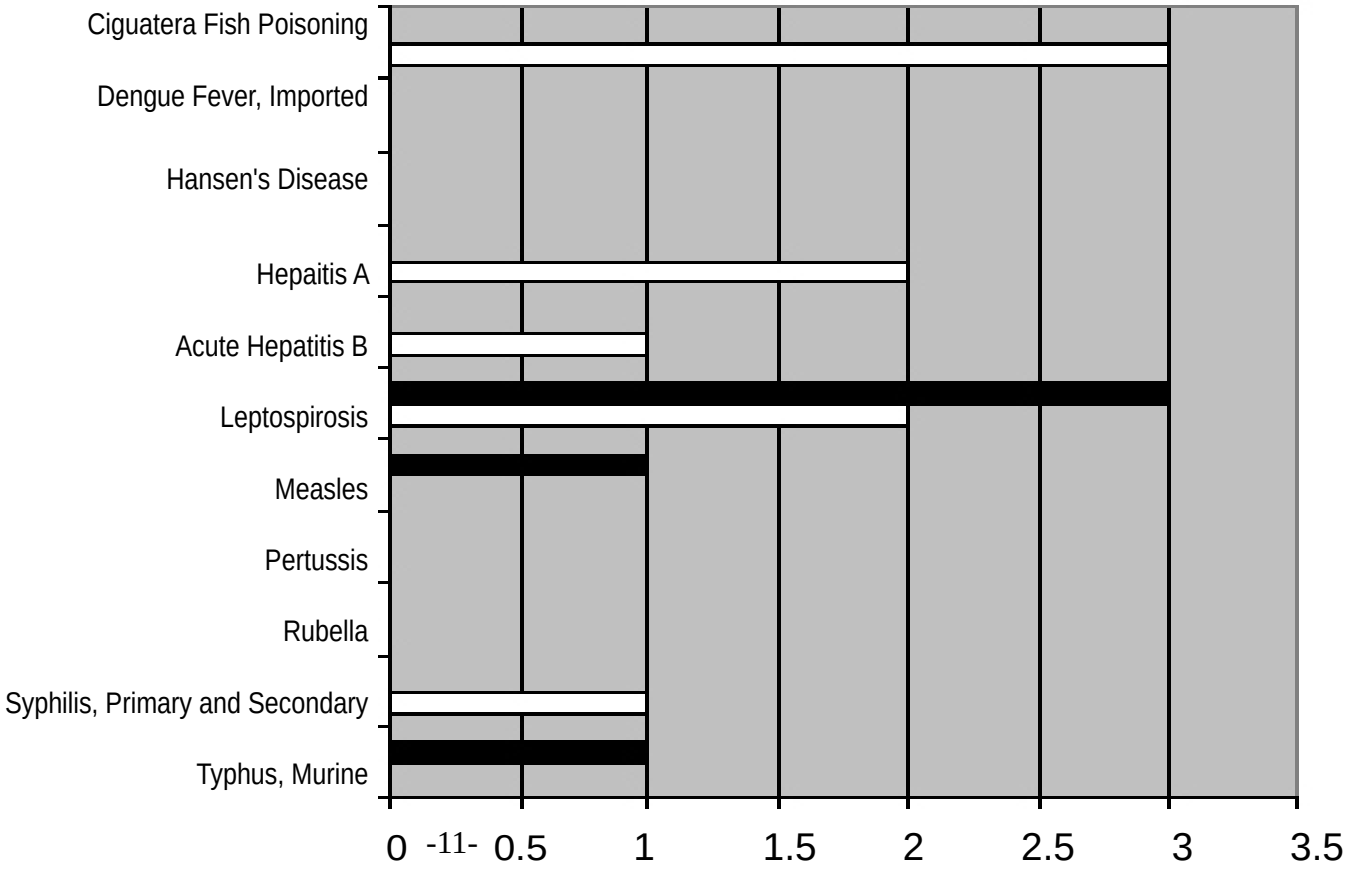
Communicable Disease Surveillance

Selected Diseases by Year of Report*
Hawaii, 2004 Year-to-date through February





* These data do not agree with tables using data of onset or date of diagnosis.
** The number of cases graphed represent 10% of the total number reported